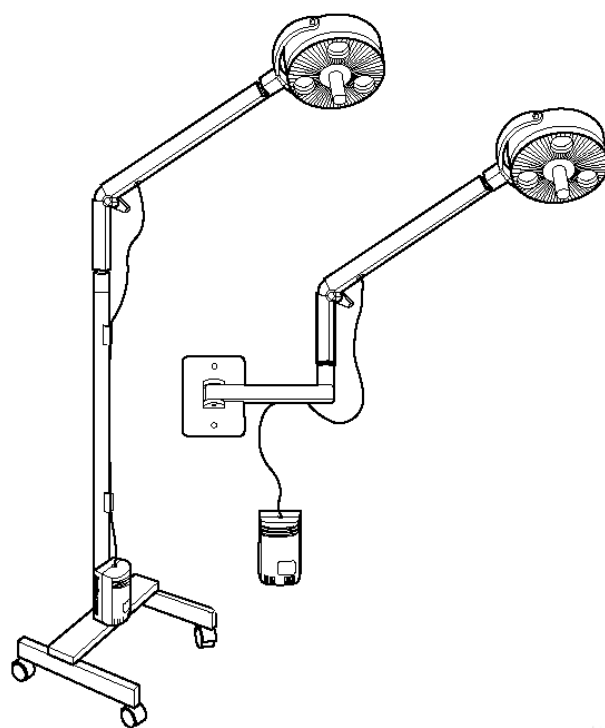


WelchAllyn

LS200™ Procedure Light



Directions for Use

CE

LS200™ Procedure Light

Directions for Use



Advancing Frontline Care™

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1 Introduction

Thank you for purchasing the Welch Allyn® LS200™ Procedure Light, designed by a leading worldwide manufacturer of illuminated diagnostic instrumentation. By following the use and care guidelines given in this manual, you will be rewarded with years of dependable, trouble-free service from your new LS200 Procedure Light. Read these instructions thoroughly before use.

Symbol Descriptions



Hazard or Warning



Attention, Caution: Consult user's manual for more information.



Hot Surface

Warning

A warning statement in this manual identifies a condition or practice, which, if not corrected or discontinued immediately, could lead to patient injury, illness, or death.



WARNING All users of this procedure light should be thoroughly trained in the medical procedures appropriate to the equipment. Furthermore, they should read and understand the instructions for all other equipment used in conjunction with the LS200 Procedure Light.

WARNING Lamps are extremely bright. **DO NOT** stare directly into lamps when lit.

WARNING DO NOT position luminaire in the upward direction with the lamps on.

WARNING Risk of explosion if used in the presence of flammable anesthetics.

WARNING The bezel in front of the lamps may be hot.

Caution

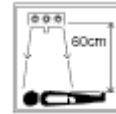
A caution statement in this manual identifies a condition or practice which, if not corrected or discontinued immediately, could lead to equipment failure, equipment damage, or data loss.



Caution Remove power cord from electrical outlet and allow lamps to cool before replacing (replace with Welch Allyn Lamp #06400 only). Accessible metal parts of this unit are electrically isolated from the grounding conductor of the supply cord. If grounding of the accessible parts is considered necessary, a separate grounding lead should be employed.

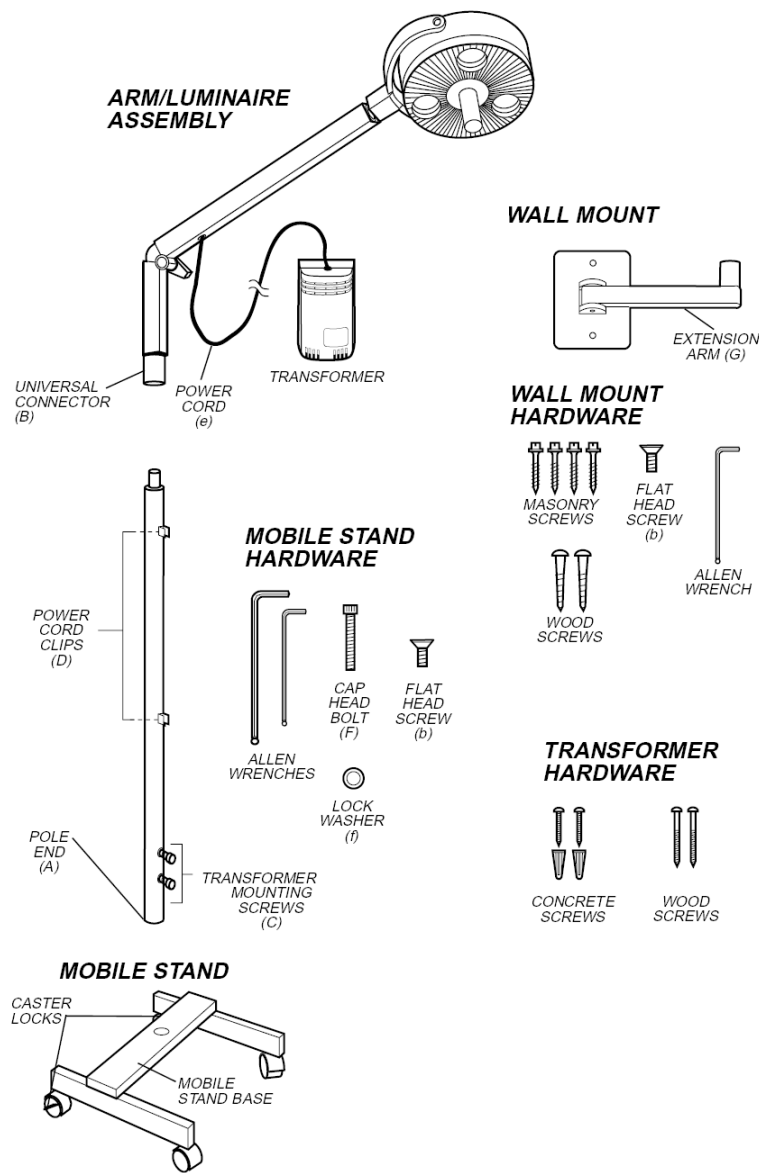
Caution To reduce the risk of electric shock, do not disassemble unit. Refer servicing to qualified service personnel.

Caution Operation at closer than 12" (30.5 cm) for extended periods may result in erythema. The designed working distance is 24" (60 cm).



Caution The switch on luminaire is **NOT** a mains switch. Transformer energizes when the light is plugged to mains.

Components



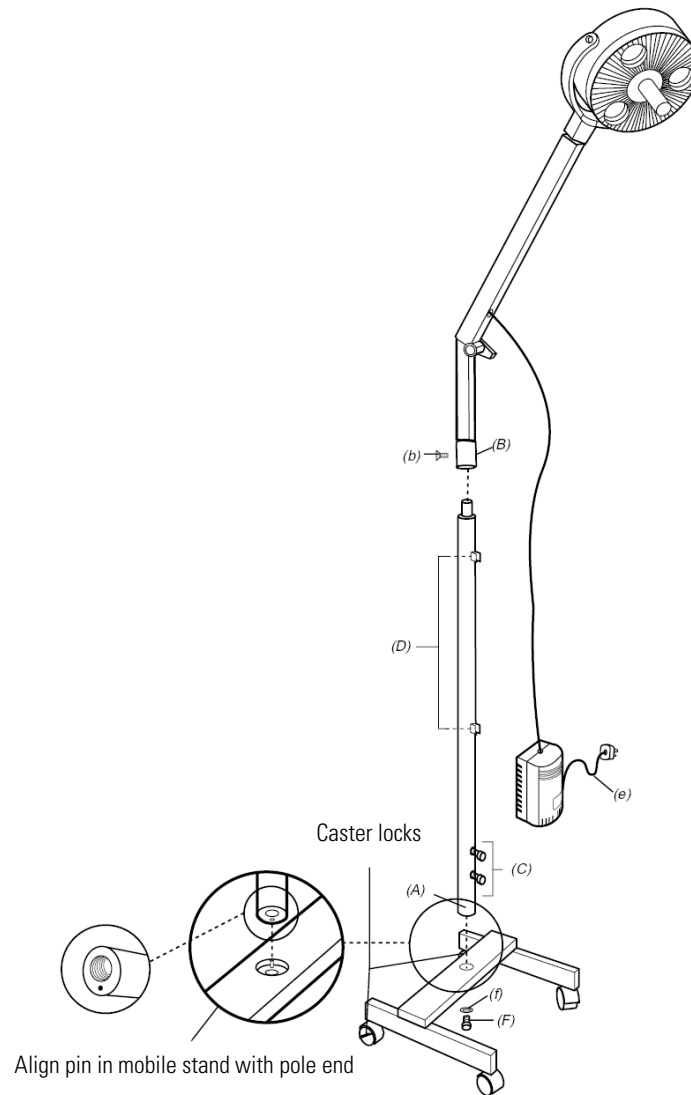
2 Mounting and Operating Instructions

Mounting Instructions

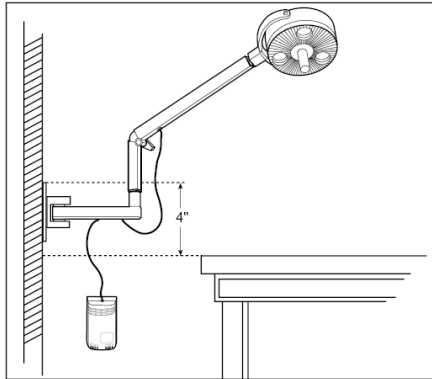
Mobile Stand Setup

1. Remove stand base, pole and hardware kit from boxes.
2. Place stand base on floor with casters down and lock casters.
3. Insert pole end (A) into hole in base of mobile stand.
4. Rotate pole until it aligns with pin and drops into place.
5. Insert cap-head bolt (F) with lock washer (f) through stand cross member into pole and tighten with 1/4" Allen wrench.
6. Carefully remove LS200 arm/luminaire assembly from box. Hook transformer onto the factory installed mounting screws (C) on the pole and slide down until secure.
7. Place arm/luminaire assembly on pole by sliding universal connector (B) onto top end of the pole and align screw holes.
8. Insert 0.5" (13mm) flathead screw (b) into hole on side of universal connector and tighten with 5/32" Allen wrench.
9. Push power cord attached to transformer into power cord clips (D) on pole, ensuring enough slack for full range of arm motion.
10. Attach power cord (e) to transformer.
11. To lock casters, push down on the tab on the locking casters.

Before moving the LS200 Procedure Light, see “Transport For Mobile Stand Unit” on page 13.



Wall Mount Set-up



Caution DO NOT mount into sheetrock. Mount the LS200 Procedure Light Arm into a wall stud.

The LS200 Procedure Light arm is designed not to go beyond 90° and the working distance is 24" (60cm). To ensure proper placement on the wall, locate the top edge of the wall plate 4" (10cm) above the working surface.

Note Use a carpenter's level to ensure precise, drift-free movement of the wall plate.

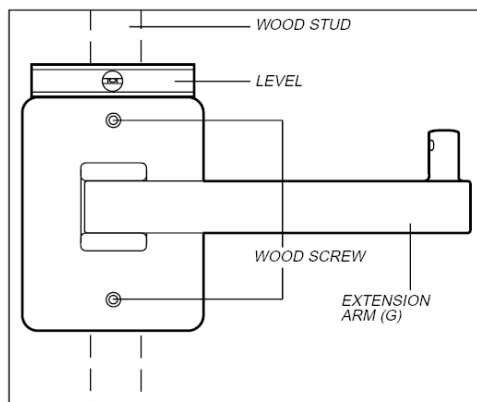
To mount to a wall stud:

1. Remove wall mount assembly and hardware kit from box.
2. Select mounting location on a stud in the wall that is within 8' (2.4m) of electrical outlet.
3. Using wall plate as a template, place on selected location on wall, level plate and mark both holes.
4. Remove wall plate and drill pilot holes using 0.12" (3mm) drill bit.

5. Place wall plate on wall and drive top 1.5" (3.8cm) wood screw halfway into wood stud.

6. Align wall plate using a level and secure at bottom with 1.5" (3.8cm) wood screw.

7. Tighten top wood screw.



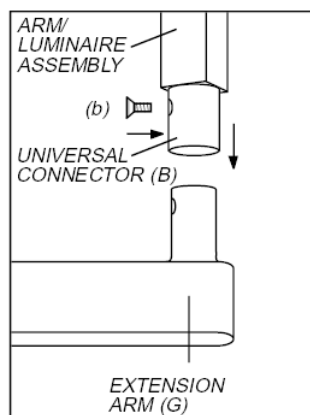
8. Prepare for transformer mounting by following "Mounting The Transformer" on page 11 instructions through step 4.

9. Carefully remove LS200 arm/luminaire assembly from box. Complete transformer mounting according to steps 5 and 6 of instructions on [page 11](#).

10. Place arm/luminaire assembly on extension arm by sliding universal connector (B) onto extension arm (G) and aligning screw holes.

11. Insert 0.5" (13mm) flathead screw (b) into hole on side of universal connector and tighten. Move arm up and down to check that mounting is secure.

12. Push cord into clips in underside of extension arm.

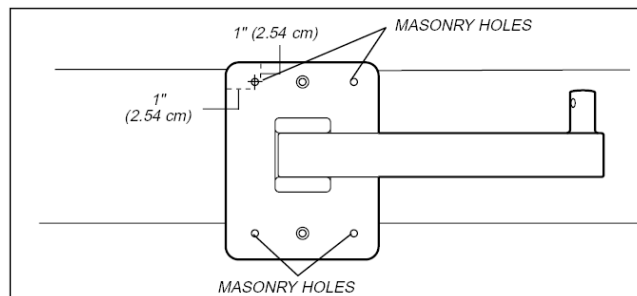


To mount to a concrete or brick wall:



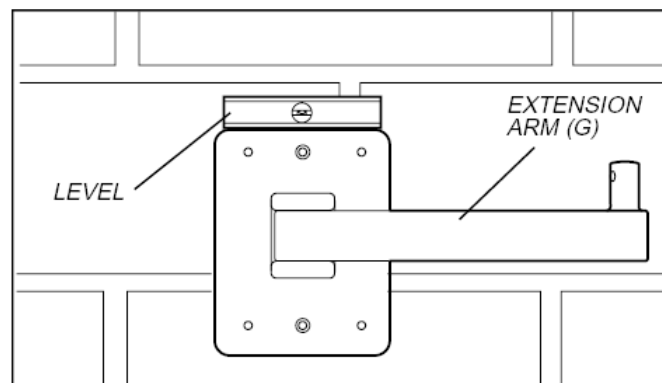
Caution DO NOT use the center two holes in the wall plate for concrete walls. Additional holes must be drilled for masonry surface mounting to assure durable attachment.

1. Remove wall mount assembly and hardware kit from box.
2. Drill holes in wall plate:
 - a. Place the wall plate flat on a wooden surface.
 - b. Mark four holes on wall plate 1" (2.5cm) from each edge in corners of plate.
 - c. Use a center punch to start holes.
 - d. Drill four holes using a 13/64" (5.1mm) drill bit



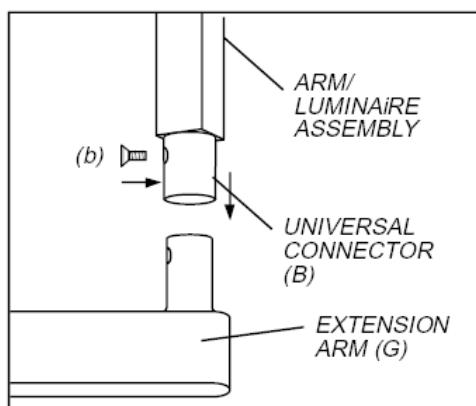
3. Select mounting location on wall that is within 8' (2.4m) of electrical outlet.
4. Using wall plate as a template, place on selected location on wall and mark upper-left hole.
5. Remove wall plate and use a center punch to start hole.
6. Using a hammer drill and 5/32" (4mm) masonry drill bit, drill hole to a minimum of 1.5" (4cm) deep.

7. Place wall plate on wall and drive 1.25" (3.2cm) masonry screw halfway into the wall.
8. Align wall plate using a level and secure by tightening screw.
9. Punch the next three holes with wall plate in place.



10. Drill remaining holes.
11. Fasten wall plate with three remaining screws.
12. Prepare for transformer mounting by following "Mounting The Transformer" on page 11 instructions through step 4.
13. Carefully remove LS200 arm/luminaire assembly from box. Complete transformer mounting by following steps 5 & 6 of instructions on [page 11](#).

14. Place arm/luminaire assembly on extension arm by sliding universal connector (B) onto extension arm (G) and aligning screw holes.

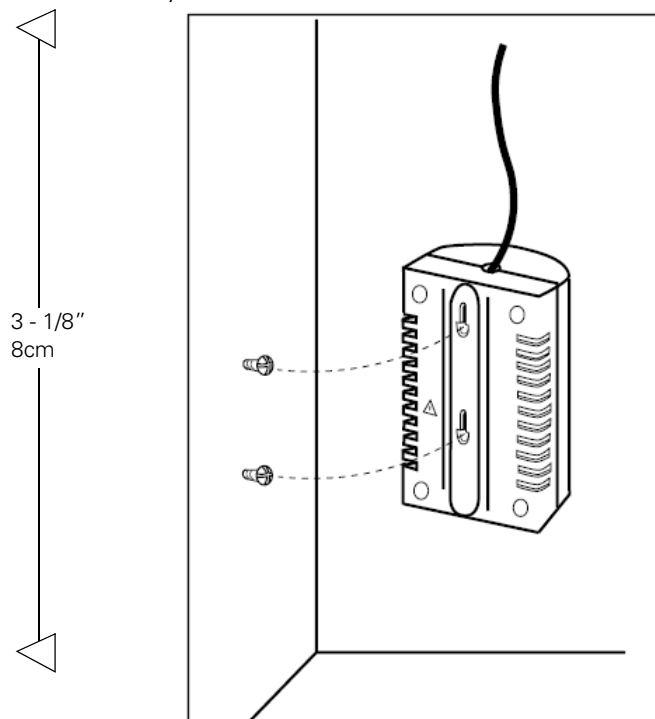


15. Insert 0.5" (13mm) flathead screw (b) into hole on side of universal connector and tighten. Move arm up and down to check that mounting is secure.
16. Push cord into clips in underside of extension arm.

Mounting The Transformer

1. Select proper mounting hardware from hardware kit in the LS200 mounting option box: Choose 1" (2.5cm) wood screws for mounting into wood stud and 1" (2.5cm) sheet metal screws and plastic anchors for concrete or brick.
2. Select a location for the transformer that is within 8' (2.4m) of an electrical outlet and within 1.5' (0.5m) of the wall mount plate to allow enough slack for full range of arm motion.

- Using the template indicators on left side of this page (3 1/8" [8cm] on center), mark the location for drill holes on the wall. Make sure they are vertical.



For wooden walls:

No pilot hole is needed. Use 1.5" (3.8cm) wood screws from transformer hardware kit.

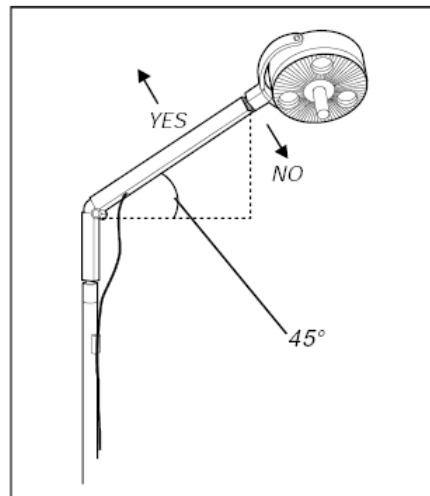
For concrete walls:

Using a hammer drill and 3/16" (2.3mm) masonry drill bit, drill holes for plastic anchors to a minimum of 1" (2.5cm) deep. Tap in plastic anchors from transformer hardware kit until flush.

4. Drive screws into the wall, allowing screw heads to protrude $11/32"$ (2.3mm).
5. Mount transformer by fitting round holes in the back of transformer over mounting screws on wall, then slide downward until secure.
6. Attach power cord to transformer.

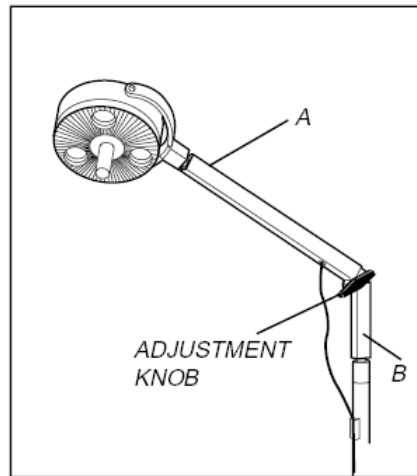
Operating Instructions

Transport For Mobile Stand Unit



1. To prevent the light from tipping, position arm at a 45° angle or greater, when rolling the LS200 to a new place.
2. Center arm in range of motion.
3. Unlock casters by lifting up on the tabs and hold unit at top of pole while moving it.

Arm Adjustment



The LS200 Procedure Light has been designed to allow the user to adjust the amount of resistance at the joints of the arm. The main joint features a large knob for easy adjustment of this key joint. Turn knob to achieve required tension.

Note There is no need to adjust knob for every use. The set tension will be maintained over multiple movements.

NEVER completely unscrew large knob.

The top and lower joints have been preadjusted at Welch Allyn. Should further adjustment be necessary, the joint resistance can be increased or decreased by using a screwdriver to adjust the set screws at point (A) or (B).

3 Maintenance

For minor trouble, see "[Troubleshooting](#)" on page 16 for possible causes and corrective action. Only qualified personnel should make electrical inspections of the LS200 Procedure Light

Repair: To locate qualified service personnel, contact your local, authorized Welch Allyn distributor, or contact Welch Allyn directly at 800-535-6663.

Troubleshooting

Trouble	Possible Cause(s)	Corrective Action
When switch is activated the light does not turn on	Power cord is loose	Check connection at wall outlet and at power supply
	A fuse is blown	Check fuse. Glass tube will be blackened if a fuse is blown. Replace if blown (See "Fuse Replacement" on page 22.).
	No power at wall outlet	Try another outlet.
	Power cord is damaged.	Order replacement cord from Welch Allyn
There has been a change in spot quality or a decrease in light intensity	Lamp is blown	Replace lamp. (See "Lamp Replacement" on page 19.)
	Lamp is not inserted in socket properly.	Check lamps to ensure they were properly installed. (See "Lamp Replacement" on page 19.)
	Bezel on front of luminaire was not aligned properly.	Make certain the clear "windows" are lined up with lamps. (See "Lamp Replacement" on page 19.)
	Dirt or dust on bezel or on the glass filters behind the bezel.	Clean if necessary. (See "Cleaning" on page 18.)

Trouble	Possible Cause(s)	Corrective Action
It's difficult to move the luminaire, the joints are stiff.	The set-screw at the connection at top of arm and luminaire is too tight.	Loosen set screw (A). (See "Lamp Replacement" on page 19.)
	The arm knob at arm joint is too tight.	Loosen knob.
	The set-screw in the joint at the bottom of the arm is too tight.	Loosen set screw (B). (See "Lamp Replacement" on page 19.).

Cleaning



Caution Cleaning and disinfection should comply with local authorities responsible for hygiene and disinfection.

Caution Do not allow solution to drip into luminaire.

Caution DO NOT spray solution directly into joints.

Caution DO NOT sterilize any part of the unit.

Caution DO NOT immerse any part of the unit in cleaning solutions.

Turn power switch to the OFF position and unplug the power cord from the electrical outlet prior to cleaning.

You can wipe the entire unit down using a cloth dampened slightly with a mild solution of detergent and water or glass cleaner. Do not allow the plug prongs to get wet. Wipe the unit dry with a clean, dry cloth.

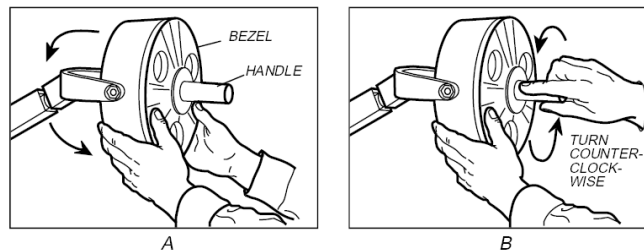
DO NOT plug the LS200 Procedure Light into the electrical outlet until the unit is thoroughly dry.

Lamp Replacement



WARNING The lamps operate at high temperatures. DO NOT attempt to replace lamps while they are hot. Wait until the lamps are cool. Lamps may shatter under pressure, handle with care. Replace with Welch Allyn lamp #06400 only.

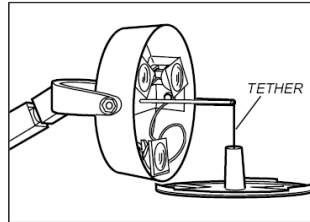
1. Turn power switch to OFF position and unplug the power cord from the electrical outlet.
2. Rotate luminaire so that the bezel and handle are facing you (see A).



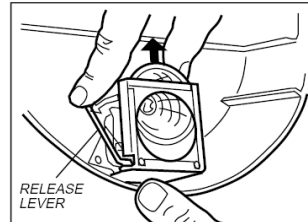
3. Turn handle counterclockwise to unscrew (see B). Remove handle and carefully slide bezel out and allow to rest on wire tether (see C).

Note There are (3) color correction filters visible on the bezel assy once it is removed. These filters also have heat reduction properties. Do not remove.

4. Locate release lever on lamp holder and push downward (see D).

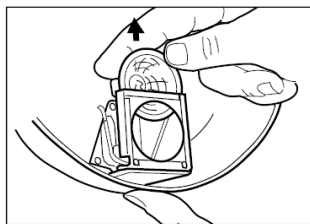


C

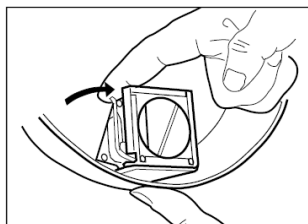


D

5. Grasp expired lamp by its base with two fingers and slide out of lamp holder (see E).



E

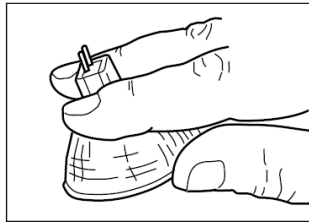


F

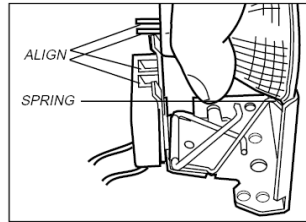
6. Return release lever to upward position (see F).
7. Remove Welch Allyn Replacement Lamp #06400 from its package.
8. Grasp replacement lamp between your two forefingers (see G).

Note Try not to touch the inside of reflector—dirt or oil can cause reduced light output. Clean according to instructions on [page 18](#), if necessary.

9. Carefully slide the lamp into the lamp holder with two fingers, making sure the two pins on the base of the lamp slide into the socket and the reflector slides under the spring (see H).

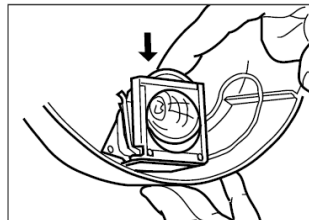


G

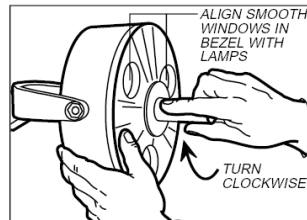


H

10. To assure proper placement in socket, gently push lamp into socket until completely seated and snap into place (see I).
11. Replace bezel. Be certain to align the three smooth "windows" in bezel with lamps and tabs on edge of bezel with grooves in white housing (see J).
12. Replace handle and rotate clockwise until secure (see J).



I

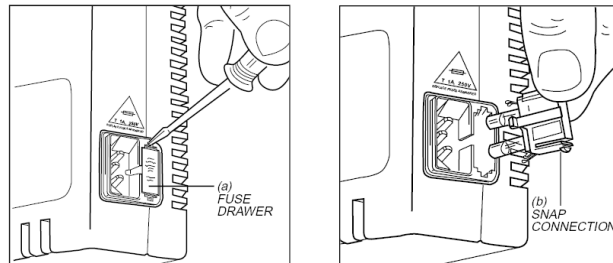


J

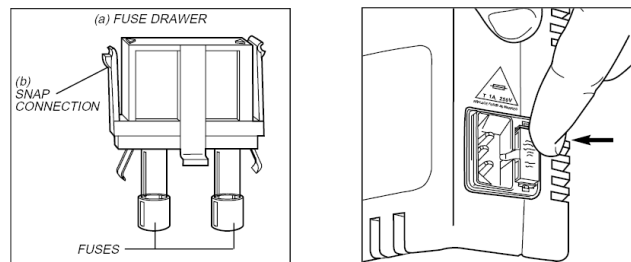
Fuse Replacement

There are two replaceable fuses located in the fuse drawer of the transformer housing. If either one of these blows, the unit will not light. Replace only with Welch Allyn part number 236706-3907 for model 44200 or 236706-3114 for models 44202, 44204 and 44206.

1. Turn the power switch to the OFF position and unplug the power cord from the electrical outlet and transformer.
2. Using a small (1/8") screwdriver, remove the fuse drawer (a) from the transformer housing by releasing the spring loaded snap connection (b) on both sides of the component.



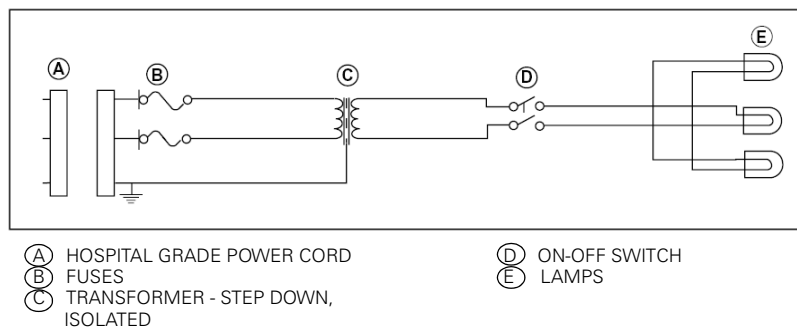
3. Pull out fuse drawer.
4. Remove and replace the blown fuse(s). There is no required orientation of the fuses.
5. Reinsert the drawer by pressing it into the connector until it snaps into place.



4 Specifications

Electrical Specifications

Wiring Diagram:



Input

Model 44200: 120 Vac, 60 Hz 0.70 A
 (U.S.A./Canada/South America/Japan)
 Model 44202: 230 Vac, 50 Hz 0.35 A
 (Europe, except United Kingdom)
 Models 44204, 44206: 240 Vac, 50 Hz 0.35 A
 (Australia, UK)

Output

12.0 Vac @ 5.0 A (three 20-watt lamps)

Leakage Current	Less than 50 μ A from any metal part
Fuses	User replaceable, both line and neutral. Model 44200: 1A, 250 V slow-blow Models 44202, 44204, 44206: T500 mA, L250V time lag (slow-blow), low breaking capacity

Agency Approvals

Model 44200	Conforms to: UL60601-1 Certified to: CAN/CSA 22.2 No. 60601-1
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Models 44202, 44204, 44206	IEC 60601-1
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The CE mark indicates this product has been tested to, and conforms with, the provisions noted in both the 89/336/EEC Electromagnetic Compatibility Directive and the 73/23/EEC Low Voltage Directive.

European Contact for Regulatory Compliance:
European Regulatory Manager
Welch Allyn Ltd., Navan Business Park
Dublin Road, Navan, County Meath
Republic of Ireland
Tel: +353 46 90 67700 Fax: +353 46 90 67755

Key Measurements

Illumination	Intensity: 2,500 foot-candles average light output (21,000 lux average) at 24" (60cm) Working Distance: 24" (60cm) Spot Size: 7" (18cm) Depth of Field: 12" (30cm) total, ±6" (15cm) Lamps: Dichroic Reflector, 3,000 hour average lamp life Central Illuminance: 9250 lux Light Field Diameter: 36 cm Correlated Color Temperature: 3200K Color Rendering Index: 94 Total Irradiance: 52.1 W/m²
Cord Length	Output Cord: 4' (1.2m) Input Cord (Detachable): 10' (3.0m)
Luminaire	Diameter: 9.5" (24cm) Material: Lexan™ 940 Polycarbonate
Dimensions	Arm: 20" (50cm) Wall/Table Extension Arm: 10" (25cm) Wall to Luminaire Center (90° to wall): 36" (90cm) Mobile Stand Height: 46" (1.2m) Mobile Stand Legs: 16" (40cm) long x 1" (2.5cm) wide x 2" (5cm) high Mobile Stand Base: 16" (40cm) long x 18" (45cm) wide x 2.5" (6cm) high

Operating Environment

For indoor use only.

Ambient (room) Temperature	10°C to 40°C
Relative Humidity Range	30% to 75%
Atmospheric Pressure Range	700 hPa to 1060 hPa
Mode of Operation	Continuous
Transport and Storage Environment	Ambient temperature: -40°C to 70°C Relative humidity: 10% to 100%

Warranty

Welch Allyn warrants LS200 Procedure Light, when new, to be free of defects in material and workmanship and to perform in accordance with manufacturer's specifications for a period of three years from the date of purchase from Welch Allyn or its authorized distributors or agents. Welch Allyn will either repair or replace any components found to be defective or at variance from manufacturer's specifications within this time at no cost to the customer. It shall be the purchaser's responsibility to return LS200 Procedure Light to Welch Allyn or an authorized distributor, agent, or service representative. This warranty does not include breakage or failure due to tampering, misuse, neglect, accidents, modification, or shipping. This warranty is also void if the instrument is not used in accordance with manufacturer's recommendations or if repaired by other than Welch Allyn or an authorized agent. Purchase date determines warranty requirements. No other express warranty is given.



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